DOCUMENT RESUME

ED 058 053 SE 013 122

AUTHOR Bury, Richard L.; Dutra, Robert S.
TITLE Comparative Use of Personal and Installed Tables and Stoves in Public Campgrounds.
INSTITUTION Texas A and M Univ., College Station. Dept. of Recreation and Parks.
REPORT NO Dept-TR-2
PUB DATE Mar 70
NOTE 23p.

EDRS PRICE MF-$0.65 HC-$3.29
DESCRIPTORS *Camping; *Comparative Analysis; *Equipment Utilization; *Recreational Facilities; Statistical Data; Technical Reports; Use Studies
IDENTIFIERS Stoves; Tables

ABSTRACT

This survey reports the use of installed tables and stoves as compared with the use of personal tables and stoves at 20 campgrounds in the central Sierra Nevada during the summer of 1961. The data reveal about 70 percent of the campers brought a portable stove. Installed grates were used by only half of the campers who had them available, and almost all of this fireplace use was for functions other than cooking. On the other hand, installed tables were almost always used even though many campers brought portable tables. Results of the survey seem to indicate that it would be advisable to decrease per-unit investment in stoves while specifying tables generous in size. Additional implications for provision and design of campsite stoves and tables are also presented. (BL)

EDO 58053

DEPARTMENT OF RECREATION AND PARKS

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL OFFICE OF EDUCATION POSITION OR POLICY

COMPARATIVE USE of PERSONAL and INSTALLED TABLES and STOVES

SD 002 180

RICHARD L. BURY
AND
ROBERT S. DUTRA

SE 013 122

departmental technical report number **2**

TEXAS AGRICULTURAL EXPERIMENT STATION • TEXAS A&M UNIVERSITY
H. O. Kunkel, Acting Director, College Station, Texas

COMPARATIVE USE OF
PERSONAL AND INSTALLED TABLES AND STOVES
IN PUBLIC CAMPGROUNDS

Richard L. Bury, Associate Professor

and

Robert S. Dutra

Department of Recreation and Parks

Texas Agricultural Experiment Station

Texas A&M University

College Station, Texas

DEPARTMENTAL TECHNICAL REPORT 2

March, 1970

COMPARATIVE USE OF PERSONAL AND INSTALLED TABLES AND STOVES IN PUBLIC CAMPGROUNDS

Richard L. Bury and Robert S. Dutra

ABSTRACT

This survey reports the use of installed tables and stoves as compared with the use of personal tables and stoves at twenty campgrounds in the central Sierra Nevada during the summer of 1961. About 70 percent of the campers brought a portable stove. Installed grates were used by only half of the campers who had them available, and almost all of this fireplace use was for functions other than cooking. On the other hand, installed tables were almost always used even though many campers brought portable tables. Implications for provision and design of campsite stoves and tables are presented.

ACKNOWLEDGMENT

Dr. Ernest M. Gould, Jr. proposed the survey and designed the method for data collection.

Contents

Introduction ---------- 1

The Survey ---------- 1

Results ---------- 3

Fireplaces ---------- 5

Tables ---------- 10

Limitations of the Sample ---------- 11

Suggestions for Other Studies ---------- 12

Conclusions ---------- 12

Appendix

A. Distribution of Shelter Types Among Fireplaces and Installed Tables ---------- 14

B. Distribution of Personal Stoves and Tables Among Types of Shelter ---------- 15

C. Distribution of Personal Stoves and Tables Among Fireplace Types ---------- 17

Text Tables

1. Percentage rate of fireplace use ---------- 5

2. Percent distribution of fireplace types and portable stoves ----- 7

3. Percent using personal stove only when fireplace was available -- 7

4. Comparative use of fireplaces and personal stoves ---------- 8

5. Percent availability of personal tables and installed tables, by shelter types ---------- 10

6. Comparative use of installed and personal tables, by type of sleeping shelter ---------- 10

Appendix Tables

A. Sample distribution among shelter types and installed tables and stoves ---------- 14

B. Distribution of personal equipment among shelter types ---------- 15

C. Occurrence of personal equipment within each shelter type ------- 15

D. Distribution of personal stoves and tables among fireplace types ---------- 17

Figures

1. Location of sample area and campgrounds ---------- 2

2. Rock rings were used by a third of the campers ---------- 4

3. Grates such as this were used by only half of the campers ------- 4

4. Less than 12 percent of campers cooked on their grates ---------- 6

5. A simple, relatively inexpensive grate ---------- 9

COMPARATIVE USE OF PERSONAL AND INSTALLED STOVES AND TABLES IN PUBLIC CAMPGROUNDS*

Richard L. Bury and Robert S. Dutra

INTRODUCTION

Campground planners and managers have derived from long experience several standards for installed equipment on public campgrounds. These usually include plans for a fireplace and a table at each campsite.**

However, campers have changed their habits drastically since the 1930's. A great many new gadgets are now brought to the campground. Do the current specifications for campsite fireplaces and tables fit the needs of today's and tomorrow's campers?

THE SURVEY

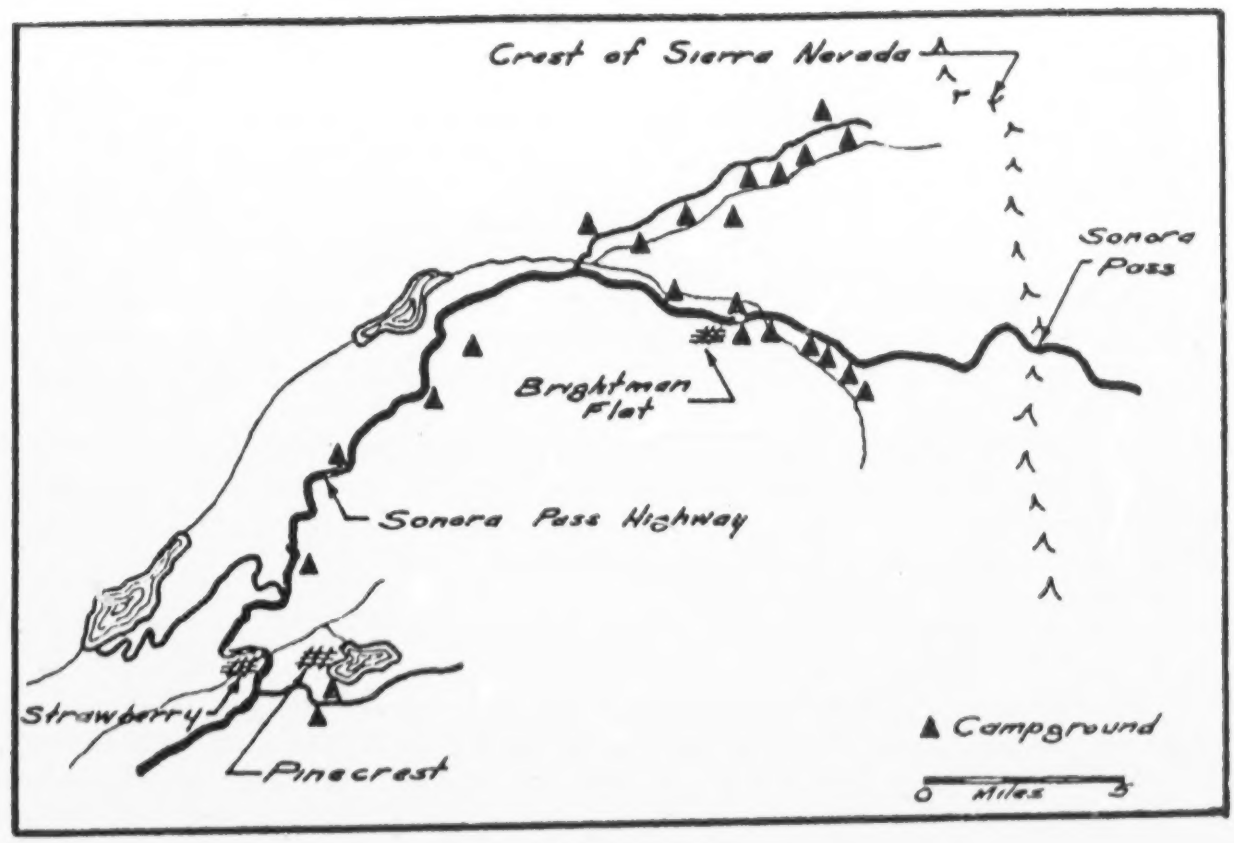
Campers on twenty campgrounds in the Summit Ranger District of the Stanislaus National Forest were sampled by recording the equipment they brought and noting their use of installed facilities. In all cases, personal equipment observed at the campsite was assumed to be used. Equipment was recorded on the basis of the entire group camped at each campsite.

The Summit District was selected for this sample because of its heavy recreation use and its representativeness of westside recreation areas in the Central Sierra Nevada. (See Figure 1) Data were collected on nine days during the period from July 6 through August 9, 1961. To obtain a large sample at minimum cost, days were selected when campgrounds were fairly full. Of the nine sampling days, seven were weekdays and two were weekend days. A total of 652 groups were tallied, of which 403 were sampled on weekdays and 249 on weekends. This closely represented the proportion of total attendance among weekdays and weekends during the 1961 camping season.

---

* This report is based on research conducted while the authors were employed by the U. S. Forest Service, Pacific Southwest Forest and Range Experiment Station. The views expressed by the authors are not necessarily those of the Forest Service

** Campsite: A place for one family group to camp, resulting either from planned installation or from continued use by campers. Usually has a parking spur and space for a tent, and may or may not have an installed table and stove.



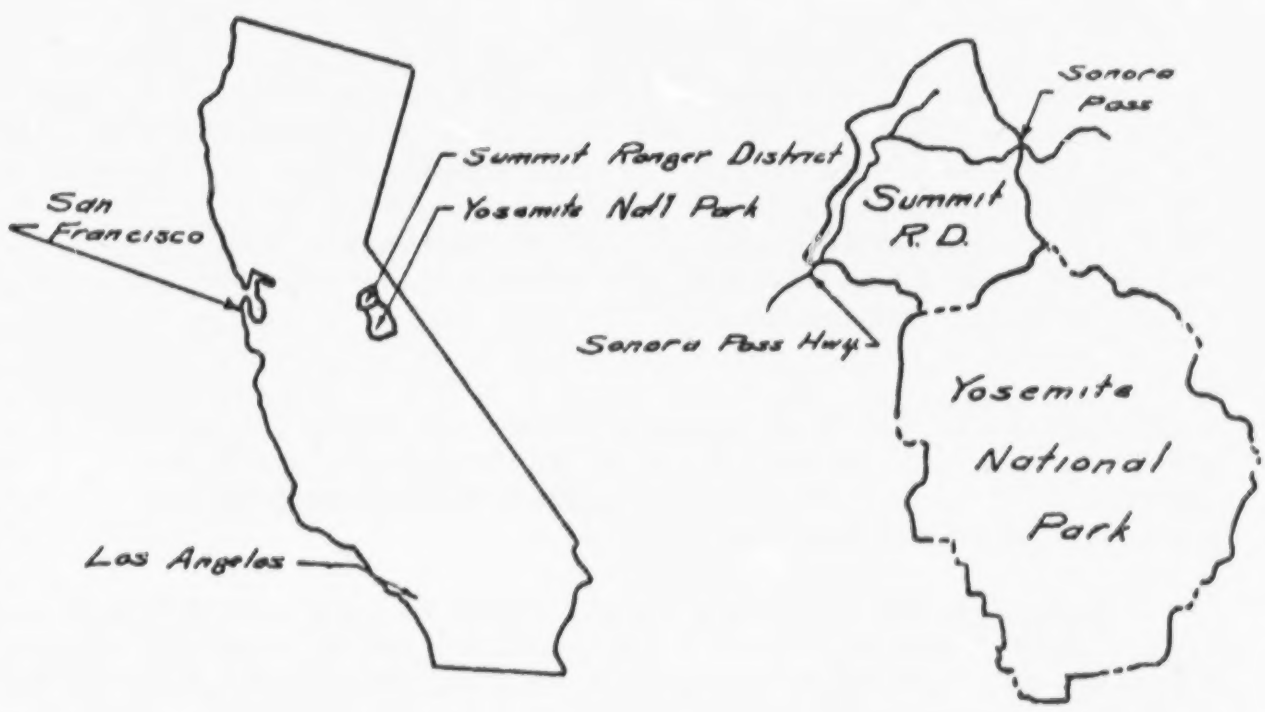


FIGURE 1. Location of the sample area and campgrounds.

Improvements on the campsites surveyed were not uniform. Twenty-nine percent of the campsites surveyed had grates installed by the U.S. Forest Service. Sixty percent of the groups were camped at sites provided with only a ring of rocks for a fireplace, and eleven percent were camped at sites without any fireplace at all. Installed tables were available at seventy-eight percent of the sites surveyed. Since Forest Service campground standards specify at least one table per campsite (1), twenty-two percent of the groups in our survey were camped at "informal" sites -- that is, ones which resulted from continued use by campers rather than being constructed by the Forest Service. This allowed description of camper behavior under several types of fireplace and table, an advantage of which would have been impossible had such improvements been uniform. However, the distribution of campers among these types of installed improvements cannot be considered a preference pattern because choice may have been limited when each group arrived.

Considerable variety in sleeping shelter was observed: 33% of the groups had camping trailers, 6% had pick-up coaches, and 61% were using tents or sleeping without shelter.

No questions were asked of campers; rather, behavior in use of their own equipment and equipment installed on the site was observed and recorded. The data were obtained by walking through the campground in a rather systematic way and recording information for all groups in the campground at the time of survey. Sampling occurred during the periods 7:00 a.m. until 11:00 a.m. and 3:00 p.m. until 7:00 p.m.

Observations during meal time were recorded separately from those at other times of day. The periods from 7:00 a.m. to 9:30 a.m. and from 4:30 p.m. to 7:00 p.m. were designated as meal time, the rest of the day as non-meal time. Analysis of data indicated that use of stoves and tables was about the same in character during the designated meal times and non-meal times, so data were combined.

It was suspected that equipment might be used differently by campers with trailers than by campers with tents -- and that people with pick-up coaches might also show distinctively different behavior patterns. Because of possible applications to design of campsites, the data have been separated accordingly by these shelter types.

RESULTS

Information has been grouped in three ways:

1. Type of shelter: trailer, tent, or pick-up coach
2. Type of fireplace: grate, rock ring, or none
3. Comparative use of equipment: personal only, installed only, or both personal and installed.

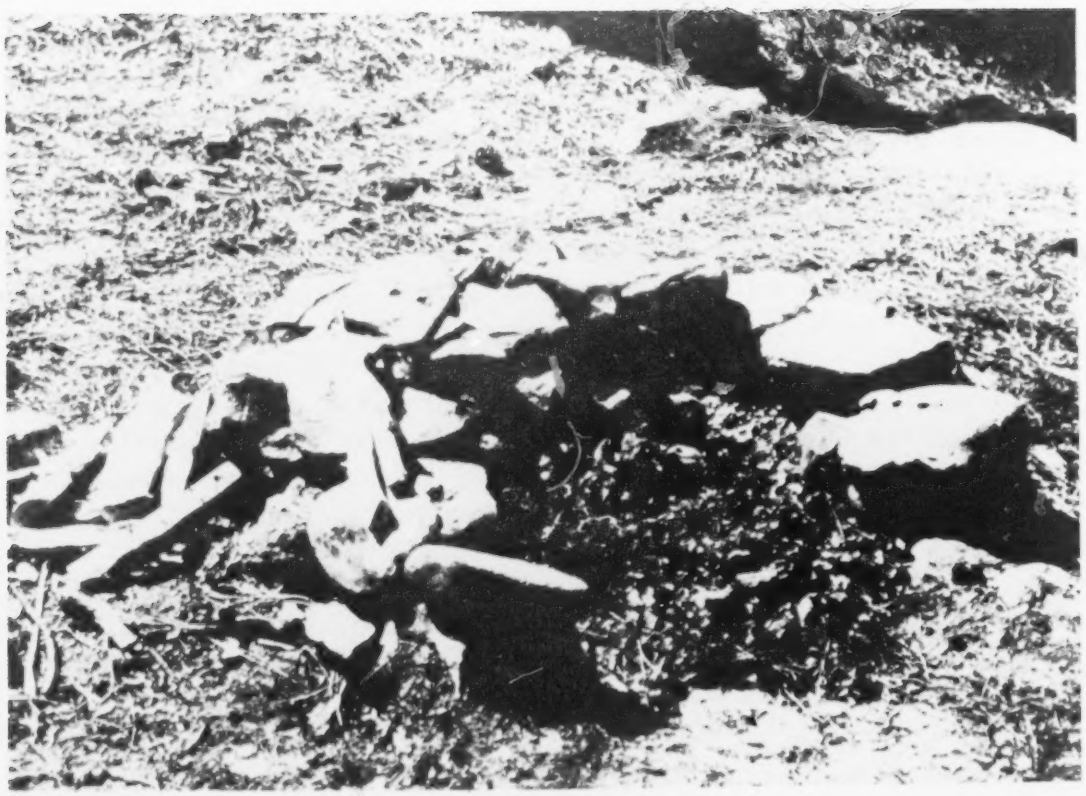


FIGURE 2. Rock rings were used by only a third of the campers. -- Photo by Richard L. Bury.

FIGURE 3. Grates such as this were used by only half of the campers. -- Photo by Richard L. Bury.

Each of these factors has potential impact on design standards. Therefore, some applications based on the available evidence are suggested. Interpretation of evidence will vary among readers; implications for campground design will also vary according to the reader's criteria for investment and management decisions. The following items have been accepted as criteria: management efficiency, investment efficiency, satisfaction of campers, and site protection. The optimal balance among these or other criteria requires individual judgment, because each reader will apply distinctive weights to his accepted criteria.

Throughout this paper, results and comments are meant to illustrate the kinds of problems which might be considered in evaluating or drawing design standards. Specific survey results, however, should not be considered representative in areas outside the study area without further sampling.

Fireplaces:

Use of fireplaces was recorded for cooking, heating water, burning trash, and warming campers. However, use for aesthetic campfires was not tallied and is an important source of potential bias. Aesthetic campfires were undoubtedly built in some of the fireplaces not used for the above functions; therefore, the total use of fireplaces would have been higher than reported.

Use of fireplaces was affected by the type available on the campsite. About half the grates and thirty percent of the rock rings available on campsites surveyed were used by campers for functions other than aesthetic campfires.

Table 1.--Percentage Rate of Fireplace Use

Function*	Fireplace		
	Rock Ring	Grate	Weighted Average
Cooking	3	4	3
Heating Water	14	36	22
Trash Burning	9	5	7
Warming	3	3	3
Total Use	29	48	35
Not Used (include aesthetic campfires)	71	52	65
Basis	392	186	578

* Use for campfires not tallied.

FIGURE 4. Less than 12 percent of campers cooked on their grates. -- U.S. Forest Service photo by Dick Smith.

Fireplaces were most often used to heat water. Only 3% of the groups with fireplaces available used them for cooking, although 24% were sampled during the period designated as meal time.* Use of fireplaces was undoubtedly affected by the season of the survey. For example, only 3% of the fireplaces were used for warming; this function would be much more common during hunting season or early spring. The availability of firewood and nearness of trash cans would have also affected rate and type of use.

Personal portable stoves were proportionately distributed among the types of fireplaces. For example, 30% of the personal stoves were found on sites with an installed grate; in turn, grates were found on 29% of the sites surveyed. (Table 2)

Table 2.--Percent Distribution of Fireplace Types and Portable Stoves

Type of Fireplace	Occurrence in Sample	Fireplace at Site With Personal Stove
Rock Ring	60	64
Grate	29	30
None	11	6
	100	100
Basis	652	468

However, only about half of the campers with portable stoves used the fireplaces at their sites. Campers with trailers and coaches used only their own stoves more often than did tent campers. (Table 3)

Table 3.--Percent Using Personal Stove Only, When Fireplace Was Available**

Fireplace Available	Shelter			
	Trailer	Coach	Tent	Average
Grate	64 (30)	50 (4)	43 (106)	48 (140)
Grate or Rock Ring	70 (81)	73 (22)	55 (337)	58 (440)

* Fireplace use was recorded for cooking if utensils were on the fireplace, even if a meal was not being cooked at the time of observation. Similarly, trash piled beside the fireplace was tallied as "trash burning." We assumed that personal stoves were used for cooking and heating water only.

** Number of camper groups shown in parentheses.

As mentioned above, campers used grates more than rock rings for cooking, heating water, and burning trash. Campers with personal stoves more often used available grates than available rock rings -- 38% and 24%, respectively. (Table 4)

Table 4.--Comparative Use of Fireplaces and Personal Stoves (Percent)

Use Class	Rock Ring	Grate	Weighted Average
Fireplace Only	5	10	6
Personal Stove & Fireplace	24	38	29
Personal Stove Only	71	52	65
TOTAL	100	100	100
Total Fireplace Use	29	48	35
Number of Camper Groups	392	186	578

This conclusion was also supported by the finding that portable stoves were used alone more often when fire rings were available than when grates were available -- 69% and 49%, respectively. The difference in rate of use appears attributable to higher use of grates for heating water. (Table 1)

Results such as these can be useful in campground planning and administration. For example, a common problem of today's manager is insufficient investment capital. Under these conditions, efficiency of investment becomes more than usually critical.

Faced with survey results such as ours, the planner might ask: Can costs per family unit be lowered by decreasing investment in fireplaces, without undue side effects on camper satisfaction, site deterioration, or administrative efficiency? Because few fireplaces were used for cooking, waist-level grates are probably an over-investment. A simpler, inexpensive grate suitable chiefly for warming might be best. Most agencies seem to be adjusting in this direction already.(2) Many current designs are simple yet suitable to several purposes -- such as both aesthetic campfires and heating water. (3)

FIGURE 5. A simple, relatively inexpensive grate will be most easily justified under the relatively low levels of use. -- U.S. Forest Service Photo by Paul Steucke.

Tables:

Personal tables were brought by about the same proportion of campers in each shelter class.* This may be inferred from the similar distribution for portable tables and for types of shelter within the survey. Although installed tables were not available on 22% of the family units surveyed, campers in each shelter type obtained their proportional share of installed tables. Trailer campers accepted sites without tables more readily than other campers. (Table 5)

Table 5.--Percent Availability of Personal Tables and Installed Tables, by Shelter Types

Item	Shelter				
	Trailer	Coach	Tent	Total	Number
Groups in Survey	33	6	61	100	652
Installed Table	29	6	65	100	503
Personal Table	28	5	67	100	314

In contrast to their comparative use of stoves, most campers who brought a personal table also used the installed table. (Table 6) On the average, only 7% of the people who had an installed table available failed to use it.

Table 6.--Comparative Use of Installed and Personal Tables, by Type of Sleeping Shelter

Use Class	Use by Percent of Each Class			
	Trailers	Truck-Coach	Tent	Average of All 3 Combined
	Family Units with Tables			
Personal Only	21	3	1	7
Personal and Installed	37	49	52	47
Installed Only	42	48	47	46
	100	100	100	100
Basis	147	29	333	509

* T.V. tables were excluded.

Campers with trailers tended to use installed tables less often than campers with tents or truck-coaches. Possibly the trailerites are more accustomed to using their own equipment while traveling, and are more likely to do so even when equipment is provided at the family unit.

Two thirds of the tent-camping groups brought at least one personal table to the campsite. This fact, in addition to the observed high use of installed tables, indicates a strong desire for more than one table at each family unit. Here again is a question for campground design: Should more than one table per campsite be provided? Should two standard tables be provided or should larger tables be built? Would an extra small table for cooking be sufficient to meet the apparent desire for more table space?

LIMITATIONS OF THE SAMPLE

Because California is a high-income state, the amount of personal equipment per group might have been greater than in many other locations.

The sample was limited to a single area of about 15 by 18 miles, although it was well-distributed among twenty campgrounds in that area.

All campgrounds sampled were under the administration of the same agency and the same local managers. Although campgrounds in the sample were somewhat different from one another, the general character of Forest Service campgrounds may be regarded as somewhat distinctive and may attract a distinctive class of campers. This class may have patterns of equipment use that are different from campers who use State or National Parks or private campgrounds.

Campgrounds sampled were, with few exceptions, below design standards now specified by the Forest Service. However, the variety of installed equipment on the sites provided a desirable range of equipment types. Also, separation of results according to item of available equipment renders this report more useful than if all campgrounds had been in conformance with a single standard of development. Behavior patterns under different conditions of facilities could be the subject of further study.

Data on functional use of fireplaces are subject to errors in data collection. Use might have been different at various times of the day, and our sample observation for each campsite was for only one time of day. We have relied on a large sample taken at various times of day in order to minimize this difficulty. Use for aesthetic campfires was not tallied; this omission should be corrected in further studies.

Seasonality and weather are important factors in use of fireplaces. Undoubtedly, campers use fireplaces for warming themselves more during the early and late portion of the season than during July and August.

Availability of firewood also affects the frequency and purpose of using fireplaces. We did not attempt to measure the effect of this factor, but wood was generally abundant near the survey campgrounds.

SUGGESTIONS FOR OTHER STUDIES

When making future studies, equipment use at each campsite should be sampled several times during the day. Of course, a smaller number of camping groups would be sampled, but the data would be more accurate than that collected on a one-observation sample of each group.

Samples of fireplace use should include evening campfires as well as day-time functions.

The investigation should be broadened to other classes of campers. This might be done by a survey spread among campgrounds by several agencies. Differences in behavior of user groups might appear in this way.

These relationships also should be studied for behavior under various forms of facility or levels of investment standards. Such an investigation might be designed as a preliminary test of preferences among facilities and types of each facility.

CONCLUSIONS

The comparative use of installed and personal tables and stoves has been described, especially when the camper had a choice between installed and personal equipment. About 70 percent of the camper groups brought a portable stove; installed grates were used by only about half of the campers who had them available. Almost all of the fireplace use was for functions other than cooking. This suggests that fireplaces be designed simply and built at low cost.

However, installed tables were almost always used even though many groups also brought portable tables. Under present restrictions on investment money, perhaps it would be advisable to decrease per-unit investment in stoves, but to specify tables generous in size.

Is observed use of installed facilities an acceptable criterion for evaluating design standards? If we agree that it is, then results of surveys such as this should be helpful. The popularity of personal stoves and tables could indicate either greater convenience, dissatisfaction with installed facilities, or a desire to supplement installed facilities because they were insufficient in either type or quantity.

Several criteria might be used for evaluating design standards; apparent satisfaction of campers is only one. Others which have been mentioned are management efficiency, investment efficiency, and ecological problems of particular sites.

Each of these criteria will be given different weight by different public agencies. Sometimes the weights will be assigned by official policy, sometimes by the individual. In addition, each criterion may be composed of several important items. For example, satisfaction of campers may include freedom of choice, the existence or absence of certain items, and the type or form of those items of equipment.

Careful evaluation of present standards may result in their acceptance as still optimal under present and anticipated conditions. On the other hand, significant improvements in planning and administration of recreation areas may follow analysis of surveys designed to reveal behavior patterns of recreation visitors.

APPENDIX A

DISTRIBUTION OF SHELTER TYPES AMONG FIREPLACES AND INSTALLED TABLES

The sample contained 652 camping groups. Distribution of sleeping shelter among installed equipment at family units is shown in Table A.

About one-third of the groups had a camping trailer; 6 percent had coaches on pick-up trucks, and the remaining 61 percent were tent campers.

Table A.--Sample distribution among shelter types and installed tables and stoves

Sleeping Shelter	Percentage of campsites in sample				
	Camping Groups	Fire rings (volunteer fireplaces)	Grates (U.S.F.S. fireplaces)	Without fireplaces	With U.S.F.S. tables
Trailer	33	30	33	50	29
Coach	6	6	5	9	6
Tent	61	64	62	41	65
TOTALS	100	100	100	100	100
Family Units in sample — No.	652	392	186	74	509
Family Units in sample — %	100	60	29	11	78

The types of sleeping shelter were found in the same general proportions throughout the classes of installed equipment. In other words, campers in different shelter types either (a) had no particular preference among the types of fireplace/table equipment provided, or (b) they were unable to exert preferences because of limited choice among vacant campsites when they arrived.

The only significant exception to this general trend was shown by trailers and tenters in the campsites without fireplaces. Although trailers were brought by 33 percent of the groups sampled, they were found in 50 percent of the campsites that had no fireplace. But most trailers probably had built-in stoves and therefore less need for installed fireplaces.

APPENDIX B

DISTRIBUTION OF PERSONAL STOVES AND TABLES AMONG TYPES OF SHELTER

Campers with trailers appeared to have less personal stoves and tables than campers with tents or coaches, since the equipment percentages in the "trailer" column are usually less than 33, the percentage of all groups with sleeping trailers.

Table B.--Distribution of personal equipment among shelter types

Item of personal equipment		Number	Percentage occurrence among types of sleeping shelter			
			Trailer	Coach	Tent	Total
Stove		468	19	5	76	100
Table		314	28	5	67	100
Groups in	No.		215	41	396	652
each class	%		33	6	61	100

The converse appears for the tent class. It is probable, however, that many trailers contained built-in stoves and tables which were not seen or recorded in this survey.

The popularity of particular equipment items within each class of sleeping shelter is shown in Table C. Percentages refer to the proportion of all groups that brought the item of equipment.

Table C.--Occurrence of personal equipment within each shelter type

Item of personal equipment		Percentage of groups with item within each shelter type			
		Trailer	Coach	Tent	All shelter types
Stove		40	61	90	72
Table		41	37	53	48
Groups in	No.	215	41	396	652
each class	%	33	6	61	100

Portable stoves appear to be the most strikingly different in popularity among the shelter classes, being brought by 90 percent of the tent campers but apparently only 40 percent of campers with trailers. The lower proportion of portable stoves in the trailer class may be only apparent since many trailers probably had built-in stoves.

APPENDIX C

DISTRIBUTION OF PERSONAL STOVES AND TABLES AMONG FIREPLACE TYPES

Groups using campsites without any fireplace displayed proportionally smaller amounts of personal equipment than groups camping where fireplaces were available (Table D); compare tabled values with percent frequency of fireplaces in bottom line. Such groups might have been waiting until units with fireplaces were available. If so, they might not have unpacked all their equipment.

Table D.--Distribution of personal stoves and tables among fireplace types

Item of portable equipment	No. of groups with stated item	Percent distribution of portable item among fireplace classes			
		Fire ring	Grate	No fireplace	Total
Stove	468	64	30	6	100
Table	314	63	31	6	100
Groups in each fireplace class	No.	392	186	74	652
	%	60	29	11	100

No other relationships between type of fireplace and personal camping equipment are apparent. Of course, camper choice was restricted by availability of the various fireplace types at the time each party entered the campground; this imposes a considerable limitation on the conclusions.

REFERENCES CITED

1. U. S. Forest Service Handbook, paragraph 2331.41.

2. Forest Service Handbook 2331.35 and 2316.14, Plate 14A. For other designs apparently chosen as desirable, see: National Conference on State Parks, National Park Servce, and American Institute of Park Executives. Park Practice:Design, sheets R-4201 through R-4234.

3. National Conference on State Parks, et al, ibid.